

Chlamydia Infections in Men:

What We Know & Don't

**Armed Forces Epidemiology Board
Meeting**

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Outline

- **Background**
- **Objectives**
- **Chlamydia studies of males in the military**
- **Chlamydia studies of males from civilian sites**
- **Cost-effectiveness studies of male screening**
- **What we don't know about screening men for chlamydia**

Background

- Male chlamydia infections are common but recommendations are limited to testing clinic patients who present w/ **symptoms**

- ✓ 35.5% (142/398) chlamydia positive at Ft. Bragg

- No screening recommendations for **asymptomatic** chlamydia infection in males

- ✓ Limited resources

- ✓ Information needed to guide programs

Background

- **Male chlamydia infections have been associated with increased risk of epididymitis**
- **Associated with infertility** (Greendale et al, AJPH 83:996-1001, 1993)
- **IgG Ab in male partner of infertile couple correlated w/ reduced likelihood of achieving pregnancy** (Idahl et al. Human Reproduction 19:1121-26, 2004)

Background

- **Why consider screening men for chlamydia infection?**

- **Treat asymptomatic infection**

- **Reduce transmission to female partners**

- **Reduce the burden of chlamydia infection and sequelae in men**

- ✓ **Reduce burden of chlamydia infection and sequelae in women**

Objectives

Audience will be able to:

- **Summarize prevalence of chlamydia in males in the military**
- **Summarize the prevalence of chlamydia in males in civilian studies**
- **Identify gaps in the knowledge of chlamydia infections in males**

Chlamydia in asymptomatic males in the military

- Brodine et al. 1998: 2 male military settings
 - ✓ marines and navy
 - ✓ 3.4% (618) West Pacific shipboard CT positive
- Cecil et al. 2001: Okinawa, CT positive May-June 1998
 - ✓ 5.2% (406) CT positive
 - ✓ No association with age or race
 - ✓ New Army recruits reporting for basic training
 - ✓ 5.3% (2,245 males) CT positive
 - ✓ Associated with chlamydia infection:
- Sutton et al. 2003: College ROTC (1252)
 - ✓ 2.5% CT positive
 - ✓ 1.5% of trichomonas infection

Chlamydia in asymptomatic males in the military

Arcari et al. 2004: Ft. Jackson, NC, July 1999-2000

New Army recruits for basic training
4.7% (3,911 males) CT positive

Associated with chlamydia infection:

Age < 20 years

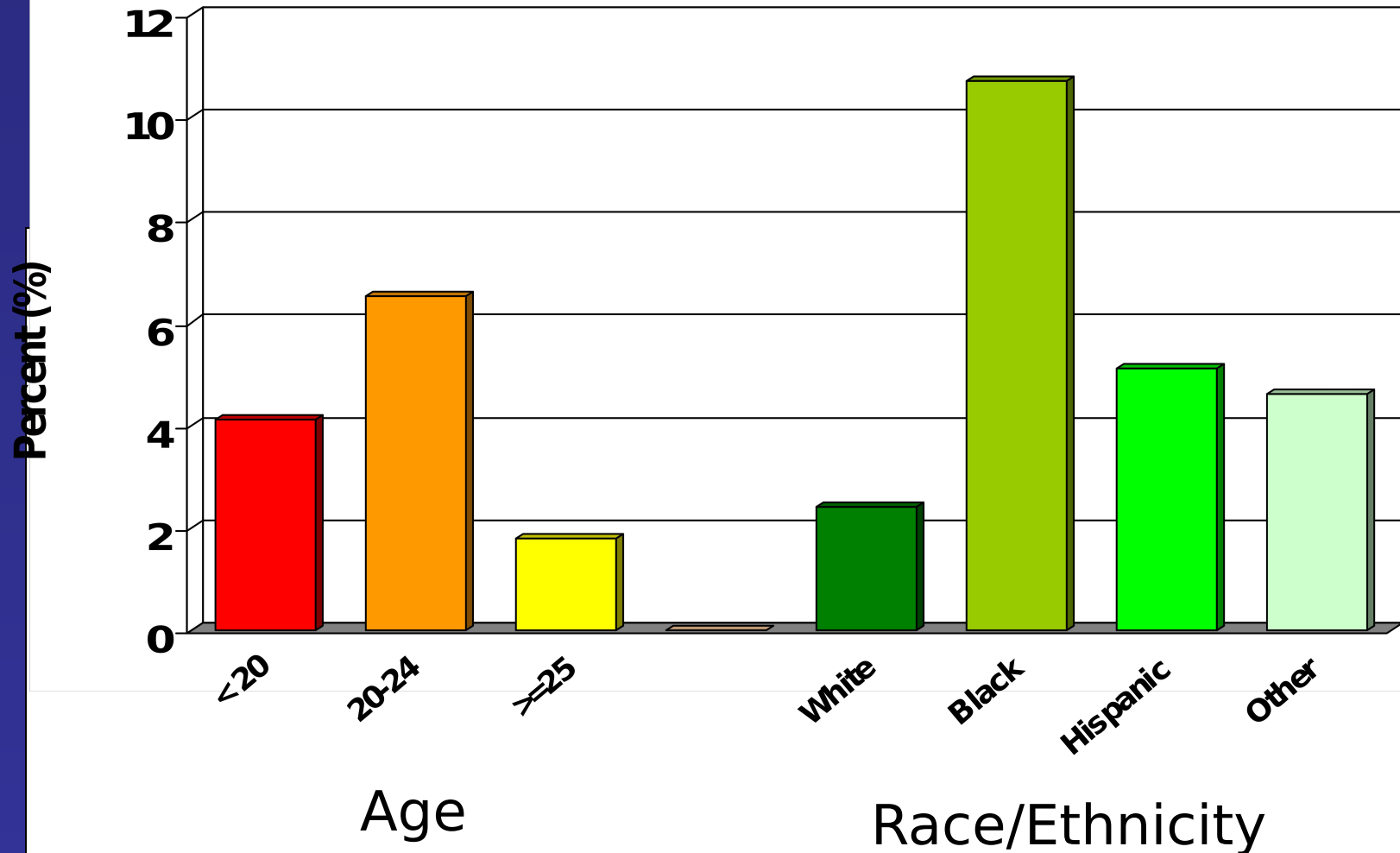
Age 20-24 years

Black race

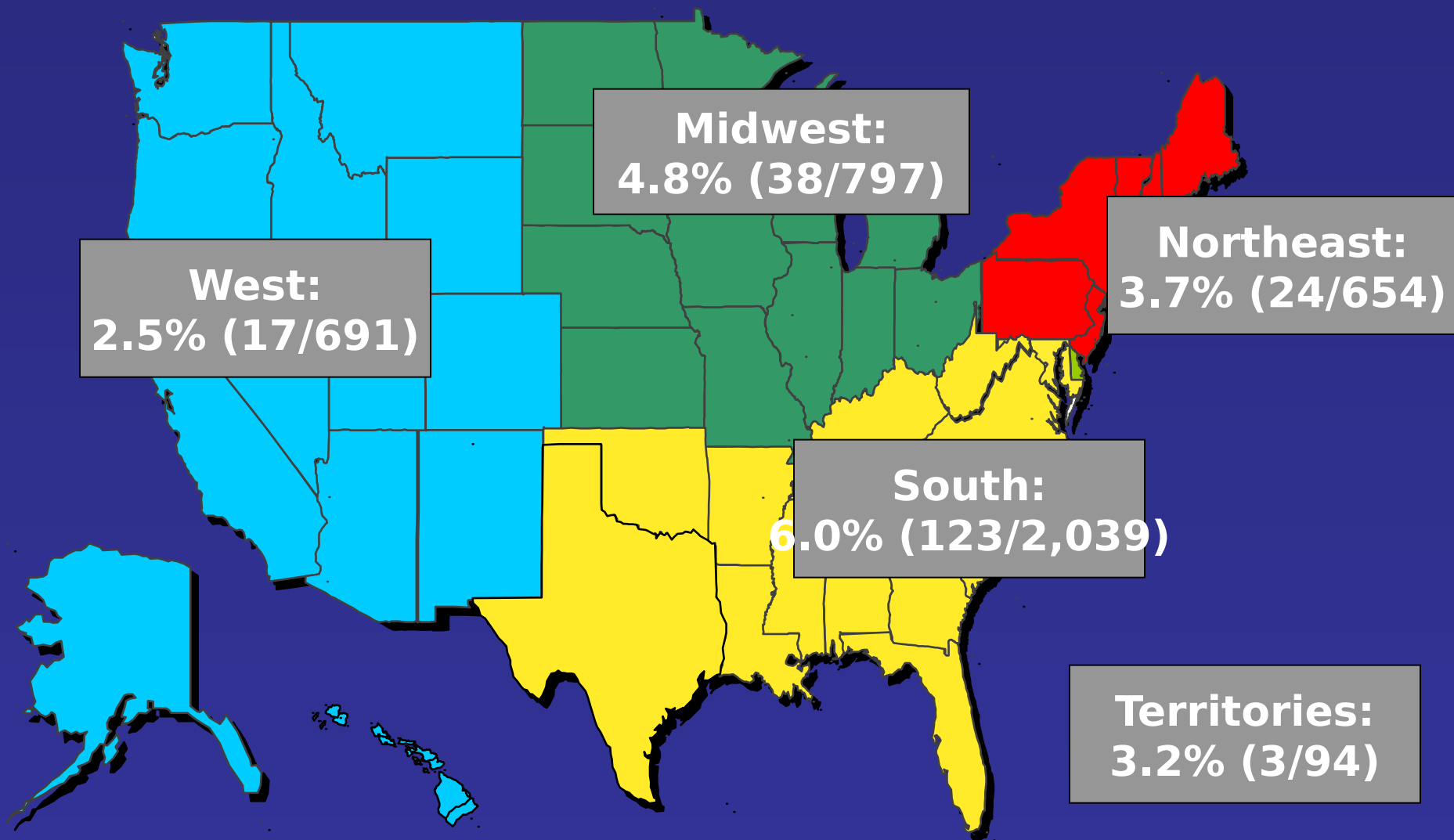
Hispanic ethnicity

Multiple sexual partners

Prevalence of Chlamydia Infection by Demographics: Male Army Recruits - 2011



Male Chlamydia Prevalence In Military Recruits: 4.9%



Chlamydia studies of males from civilian sites

**LaMontagne et al. 2003: 43,094 patient
reported asymptomatic men from STD
clinics 1997-1999**

prevalence 10.3%

**23.5% had signs of urethritis on
Gram St.**

**76.5% had no signs
CDC funded study of asymptomatic and
symptomatic men (15-44 yr) in 4 cities
across the U.S. (N = 23,509)**

Male Ct Screening Project

- **Demonstration project: men ages 15-44 screened for Ct infection**
 - Baltimore
 - Denver
 - San Francisco
 - Seattle
- **Longitudinal Study: men with Ct infection recruited for a study of repeat infection**
 - Baltimore
 - Denver
 - San Francisco

Prevalence of Chlamydia in Baltimore, Denver, SF, Seattle

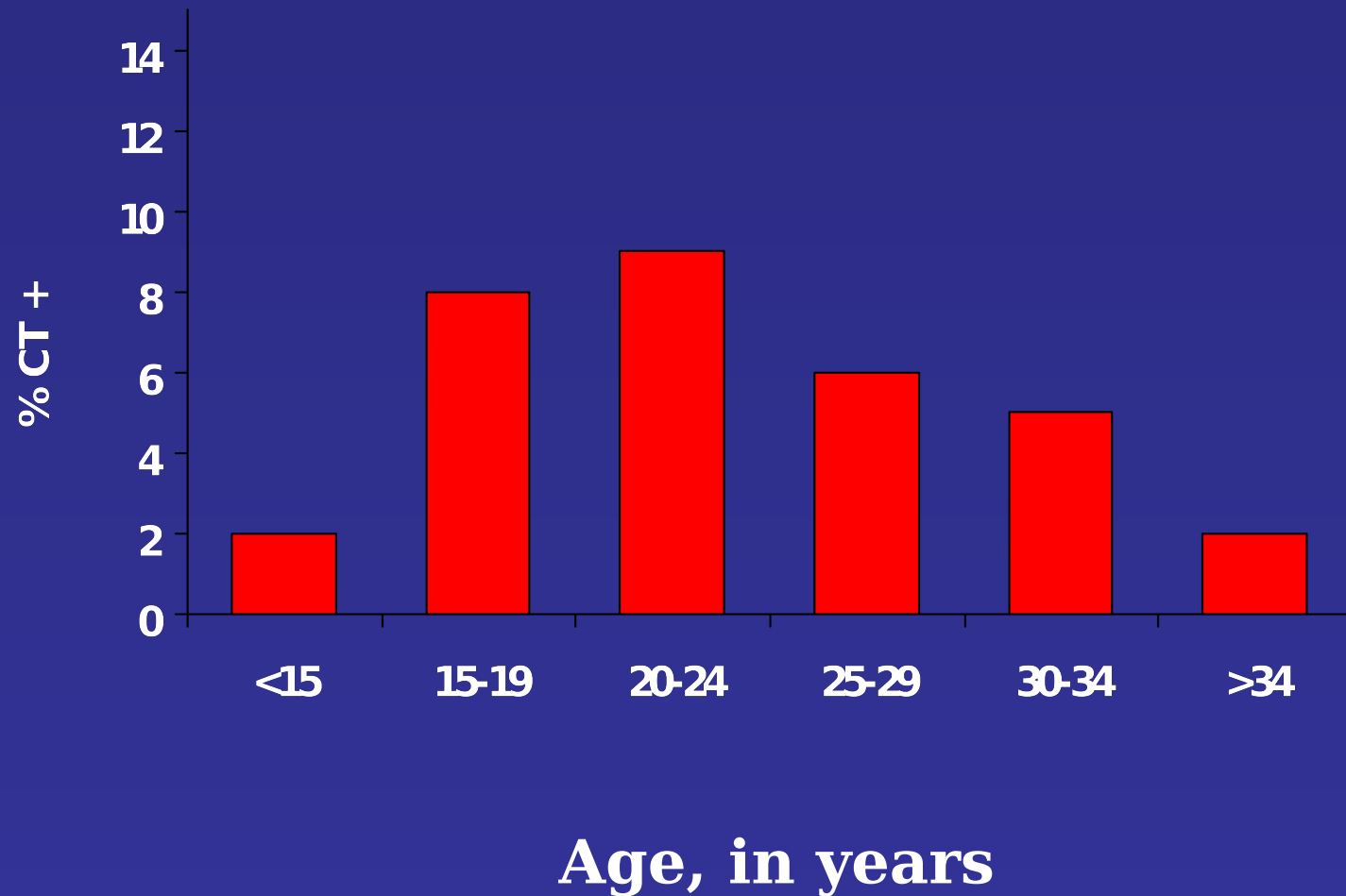
City	No. positive/ No. tested	Prevalence (% positive)	Rank*
Baltimore	363/3,129	(12)	3
Denver	345/3,516	(10)	8
SF	832/16,097	(5)	35
Seattle	8/765	(1)	59
Total	1,548/23,507	(7)	--

*From 2002 CDC Surveillance Report: Rank among 63 cities with population >200,000.

Low rank indicates highest rate of reported Ct.

Prevalence of CT, by age group

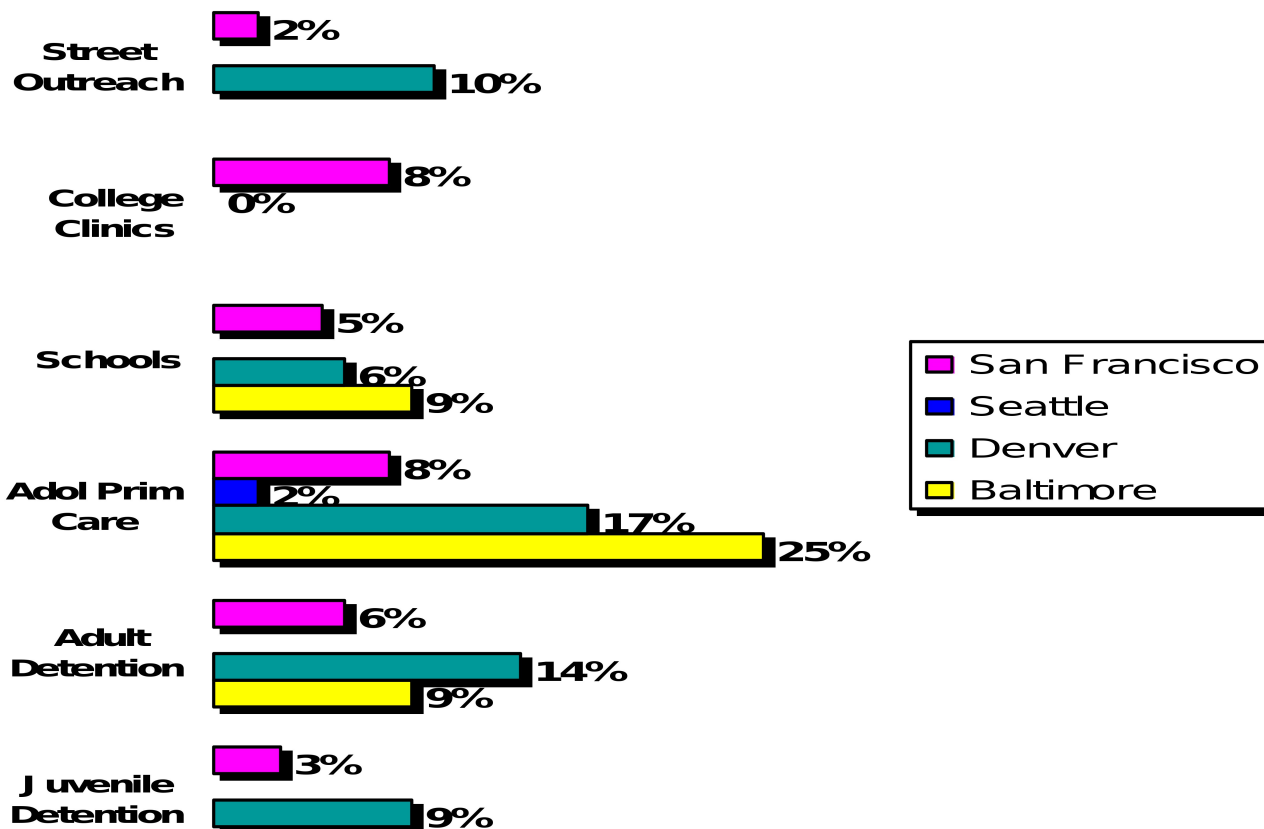
BALTIMORE, DENVER, SF, SEATTLE



Prevalence of Ct, by venue/city

BALTIMORE, DENVER, SF, SEATTLE

Venue



Prevalence

Repeat Infection by City/Venue (over all 12%)

City/Venue	N	Repeat Infection n (%)
Baltimore/Adolescent Clinics	18	5 (28)
Baltimore/School Clinics	40	2 (5)
Denver/Adolescent Clinics	32	9 (28)
Denver/STD Clinic	67	5 (7)
San Francisco/STD Clinic	57	7 (12)

Net Program Cost Equivalence

Prevalence in Women	Prevalence in Men	
	PID cost=\$3071	PID cost=\$1303
1.0%	2.0%	6.0%
2.0%	3.5%	10.0%
3.0%	5.0%	13.0%
4.0%	6.5%	15.5%
5.0%	8.0%	18.5%
6.0%	9.5%	> 20.0%

Cost effectiveness of male screening for Ct infection

- **Screening men can benefit women by:**
 - **reducing the number of infectious men**
 - **leading to the treatment of asymptomatic women through PN**
- **Screening men can be cost-effective:**
 - **if the prevalence among unscreened women who can potentially be screened is lower than the prevalence among men who can be screened, all else equal**

What we know

- **Ct Infection is common among males, and varies by venue and city**
- **Young age, specific venues/cities are associated with higher prevalence of male Ct infection**
- **Repeat infection is similar to that in females (12%)**
- **The acceptability by providers and participants is high**
- **Male screening for Ct infection can be cost-effective in certain circumstances**

What we need to know

- **Prevalence of male Ct by venue/city**
- **Coverage of females, prevalence of female Ct by venue/city**
- **Tests available/costs**
- **Program costs for new screening or expansion of screening**
- **Risk characteristics of population**

Best use of a dollar?

- Many variables that influence the best use of a dollar to prevent infertility

When to consider screening males for Ct

- **Urine based NAATS available**
- **Program startup/maintenance costs not prohibitive**
 - **Existing program > new program (no new staff, support/structure/lab pick-up in place)**
- **Support for male screening in venue**
- **Adequate coverage of females screened in appropriate age groups**
- **Venues where high prevalence $\sim \sim > 5-7\%$**
- **Venues where many symptomatic men evaluated**

Summary

- Prevalence of chlamydia in asymptomatic males is approximately 5% in military studies
- Many variations in prevalence for chlamydia in civilian studies
- Women should be screened before men
- Screening men could prevent reinfection in women as well as sequelae in women
- Many cost and logistic factors will affect the decision to screen